



## **CORPORATION OF THE CITY OF VERNON**

### **ADVISORY PLANNING COMMITTEE**

Tuesday, October 26, 2021 AT 4:00 P.M.

**VIA ZOOM AND IN-PERSON**

**COUNCIL CHAMBERS (OKANAGAN LAKE ROOM)**

## **A G E N D A**

- 1) **ORDER**
- 2) **LAND ACKNOWLEDGEMENT**  
*As chair of the City of Vernon's Advisory Planning Committee, and in the spirit of this gathering, I recognize the City of Vernon is located in the traditional territory of the Syilx people of the Okanagan nation.*
- 3) **ADOPTION OF AGENDA**
- 4) **ADOPTION OF MINUTES**  
October 13, 2021 (attached)
- 5) **NEW BUSINESS:**
  - a) **DVP00502 (8092 Okanagan Landing Road)**
  - b) **DVP00532 (Mt Fosthall Drive)**
- 6) **INFORMATION ITEMS:**  
The Staff Liaison will provide a verbal update of APC related items discussed at the most recent Council meeting.
- 7) **DATE OF NEXT MEETING:**  
The next meeting is tentatively scheduled for **Tuesday, November 10, 2021.**
- 8) **ADJOURNMENT**



## THE CORPORATION OF THE CITY OF VERNON

### MINUTES OF THE ADVISORY PLANNING COMMITTEE MEETING HELD ON WEDNESDAY, October 13, 2021 VIA ZOOM and IN-PERSON COUNCIL CHAMBERS (OKANAGAN LAKE ROOM)

**PRESENT:** VOTING

Mark Longworth, Chair  
Don Schuster  
Doug Neden (*Via Zoom*)  
Harpreet Nahal (*Via Zoom*)  
Jamie Paterson  
Joshua Lunn  
Monique Hubbs-Michiel (*Via Zoom*)

NON-VOTING

Mayor Cumming (Appointed Member) (**joined at 4:06 pm**)

**ABSENT:** Bill Tarr  
Lisa Briggs  
Phyllis Kereliuk

**STAFF:** Ally Campbell, Planning Assistant  
Craig Broderick, Manager, Current Planning  
Roy Nuriel, Economic Development Planner  
Tracy Mueller, Committee Clerk

**ORDER** The Chair called the meeting to order at 4:02 p.m.

**LAND  
ACKNOWLEDGMENT** *As Chair of the City of Vernon's Advisory Planning Committee, and in the spirit of this gathering, I recognize the City of Vernon is located in the traditional territory of the Syilx people of the Okanagan Nation.*

**ADOPTION OF  
AGENDA** Moved by Jamie Paterson, seconded by Monique Hubbs-Michiel:

THAT the Advisory Planning Committee agenda of October 13 28, 2021, be adopted.

**CARRIED.**

**ADOPTION OF MINUTES**

Moved by Don Schuster, seconded by Doug Neden:

THAT the minutes for the Advisory Planning Committee meeting of September 28, 2021 be adopted.

**CARRIED.**

**NEW BUSINESS:**

**DEVELOPMENT VARIANCE PERMIT APPLICATION FOR 4001 34A STREET (DVP00539)**

Roy Nuriel, Economic Development Planner, reviewed the Development Variance Permit Application for 4001 34A Street. The Committee noted the following:

- There is a requested variance for setbacks and parking.
- Staff clarified that the applicant cannot meet all the parking required under the City of Vernon's Zoning Bylaw; therefore, the applicant has requested to reduce the number from 40 spaces to 33 spaces. The rationale behind the request was included with the access and parking study as part of the agenda package.

Questions from members of the Committee were as follows:

- A member of the Committee requested further clarification regarding the parking variance requested.
  - Staff clarified that the new parking under the new building will be designated to the new tenants of the new building and the rest of the parking will be available for all tenants to use.
  - Access to the parking will come from 34A Street as well as from the rear lane.
- The Committee asked for clarification regarding the zoning bylaw in terms of massing and setbacks and how the application complies.
  - Staff noted that density and massing for the RH1 zone is based on the FSR (Floor Space Ratio) and that the design meets all conditions associated with the FSR and that the variances are for setbacks and parking.
- Members of the Committee expressed concern regarding the proposed 1.0m side-yard setback on the west side in that it could negatively impact the adjacent neighbouring property in terms of privacy. Staff noted that the adjacent property owners would be notified of the Public Input Session.
  - Staff clarified that notification letter will be sent to the surrounding neighbours (within the legislated radius)

advising of the upcoming Public Input Session and signage would be posted advising of the Council Meeting.

- Staff further shared that the project architects considered a few options for the site and they wanted to present a modern newer style of building with utilities and amenities located in between the existing building and the new building. Further, there is a large green amenity space in the front of the building which was site feature which was preserved. The Committee discussed the removal of the two westerly underground parking spaces in order to increase the proposed westerly setback and the reduce the size of the decks on the west side of the first floor. Staff noted that they will review those suggestions with the applicant.
- Discussion ensued and the resulting Committee consensus was that there was not support for the requested setback of 1.0 metre side yard setback (i.e. west).
- It was suggested by a member of the Committee that a portion of the path (the east- west portion) be upgraded to proper standard as it is a high use trail. The Committee discussed the proposed location of the walkway and requested additional clarification regarding the right-of-way / ownership.
  - Staff clarified that the east-west trail is on City owned property. Staff further noted that as part of the variance; the Developer could be asked to improve the east-west walkway as part of the requested variance.

In terms of parking, staff clarified that the project would require 40 spaces. The applicant is requesting a reduction to 33 spaces.

The Chair noted that as there is underground parking, that there could be a requirement attached to the variance application to install charging and storage provisions to accommodate electrical bicycles.

Moved by Doug Neden, and seconded by Monique Hubb-Michiel:

THAT Council support portions of the Development Variance Permit Application DVP00539 to vary the following sections of Zoning Bylaw #5000 to allow for a four and a half storey, 29-unit, rental apartment building to be constructed on Lot A, Plan 28535, Sect 3, Twp 8, ODYD (4001 34A Street):

- a) **support** varying the minimum rear year setback from 9.0 to 1.7m for the building wall and 0.6m for the cantilever balconies (Section 9.12.5);

- b) **not support** varying the minimum west side yard setback for the ground floor parkade and first floor deck from 4.5m to 1.0m (Section 9.12.5); and;
- c) **support** varying the minimum number of required off-street parking spaces for residents from 40 spaces to 33 spaces (Section 7.1.2, Table 7.1).

AND FURTHER, that Council support of DVP00539 is subject to the following:

- a) the site plan, floor plan, elevations, landscaping plan, shadow analysis and parking study generally noted as Attachments 2-7 contained in the report entitled "Development Variance Permit for 4001 34A Street" dated October 5, 2021 and respectfully submitted by the Economic Development Planner be attached to and form part of DVP00539 as Schedule "A".

**CARRIED.**

**with Harpreet Nahal Opposed**

Further, the Committee suggests that Administration explore options related to upgrading the existing paths in the immediate area to support pedestrian circulation.

**INFORMATION ITEMS**

- Staff noted that there are no updates on recent applications to share with the Committee other than the rezoning west of Turtle Mountain was given final approval of the and that would result in a future construction of a new section of the Grey Canal.

**NEXT MEETING**

The next meeting of the Advisory Planning Committee is tentatively scheduled for Tuesday, October 26, 2021.

**ADJOURNMENT**

Moved by Don Schuster, seconded by Doug Neden:

THAT the Advisory Planning Committee meeting of October 13, 2021 be adjourned.

**CARRIED.**

The meeting of the Advisory Planning Committee adjourned at 4:57 p.m.

**CERTIFIED CORRECT:**

\_\_\_\_\_  
**Chairperson**



# THE CORPORATION OF THE CITY OF VERNON REPORT TO COUNCIL

**SUBMITTED BY:** Craig Broderick  
Manager, Current Planning

**COUNCIL MEETING:** REG  COW  I/C   
**COUNCIL MEETING DATE:** November 22, 2021  
**REPORT DATE:** October 20, 2021  
**FILE:** 3090-20 (DVP00502)

**SUBJECT: DEVELOPMENT VARIANCE PERMIT APPLICATION FOR 8092 OKANAGAN LANDING ROAD**

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## **PURPOSE:**

To review Development Variance Permit Application #DVP00502 to vary Zoning Bylaw #5000 in order to construct a new home at 8092 Okanagan Landing Road.

## **RECOMMENDATION:**

THAT Council support Development Variance Permit Application #DVP00502 to vary the following section of Zoning Bylaw #5000 to construct a new home on LT 2 PL KAP83830 DL 6 ODYD (8092 Okanagan Landing Road):

- a) Section 4.16.1 is varied to allow construction of buildings, structures or swimming pools on a maximum slope of 30%;

AND FURTHER, that Council's support of #DVP00502 is subject to the following:

- a) the site plan generally illustrating the proposed siting of the structure in Attachment 1, contained in the report titled "Development Variance Permit Application for 8092 Okanagan Landing Road", dated October 20, 2021, respectfully submitted by the Manager, Current Planning, be attached to and form part of DVP00502 as 'Schedule A'; and
- b) the Restrictive Covenant be registered on title to ensure that the recommendations of the geo-technical report are implemented at the building permit stage and that the areas that are not to be developed remain undisturbed.

## **ALTERNATIVES & IMPLICATIONS:**

THAT Council not support Development Variance Permit Application DVP00502 to vary Section 4.16.1 (30% slope) of Zoning Bylaw #5000 to construct a new home on LT 2 PL KAP83830 DL 6 ODYD (8092 Okanagan Landing Road) as outlined in the report titled "Development Variance Permit Application for 8092 Okanagan Landing Road", dated October 20, 2021, respectfully submitted by the Manager, Current Planning.

*Note: Denial of the Development Variance Permit Application would require compliance with Zoning Bylaw #5000 or seek an alternative variance resulting from a revised site layout.*

## **ANALYSIS:**

### **A. Committee Recommendations:**

At its meeting of October 26, 2021, the Advisory Planning Committee passed the following resolution:

*"As cited by the committee."*

**B. Rationale:**

1. The subject property is located at 8092 Okanagan Landing Road as shown in Figures 1, 2 and 3. The property is approximately 4,710m<sup>2</sup> (50,700 sq ft) and is within the Okanagan Landing Neighbourhood.
2. The purpose of the application is to review vary a provision of Zoning Bylaw #5000 in order to construct a new home at 8092 Okanagan Landing Road (Attachment 1).
2. The subject property is zoned R6 – Lakeshore Residential (Attachment 2) and the subject application pertains to development regulations within Section 4.16.1 (30% slopes) of Zoning Bylaw #5000 (Attachment 3).
3. The application proposes to vary Section 4.16.1 of Zoning Bylaw #5000 in order to allow portions of the proposed home to be located on slopes exceeding 30% slopes.

The site plan for the proposed house is illustrated in Attachment 1. The applicant has submitted a rational letter for the variance (Attachment 4).

4. In support of the Development Variance Permit, the applicant retained a geotechnical engineer to review the site and plans for the new home. The report concludes that “site is generally suitable for the proposed development from a geotechnical perspective”. The geotechnical engineer will need to be involved with the foundation design and construction at the building permit stage. The applicant has also submitted supporting information (Attachment 4).
5. To ensure that the integrity of the remainder of the property is protected, it is recommended that a covenant be registered on the property title ensure that no additional development or disturbance shall occur on the remaining portions of the lands.
6. The subject lot was created in 2007 by Plan of Subdivision KAP83830 which split the parcel from the lakeside portion and included a substantial road dedication (10m) to allow for the future widening of Okanagan Landing Road. The required road dedication resulted in a reduced building envelop for the proposed house construction. The original Lot was created in 1904 as part of Plan 197 which did not include any road frontage for the lakeshore lots.

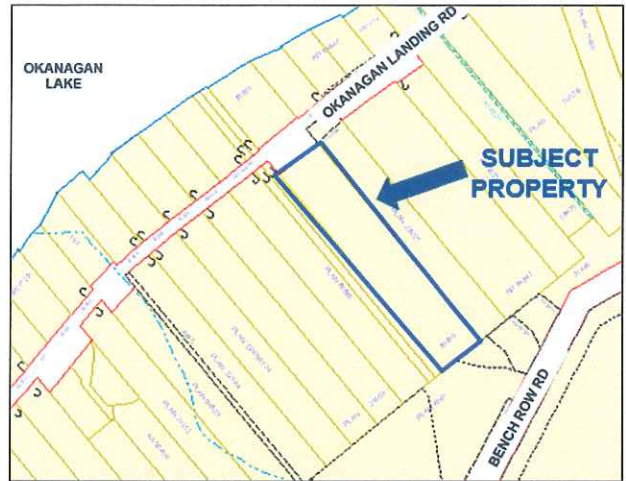


Figure 1 - Property Location Map



Figure 2: Aerial Photo of Property

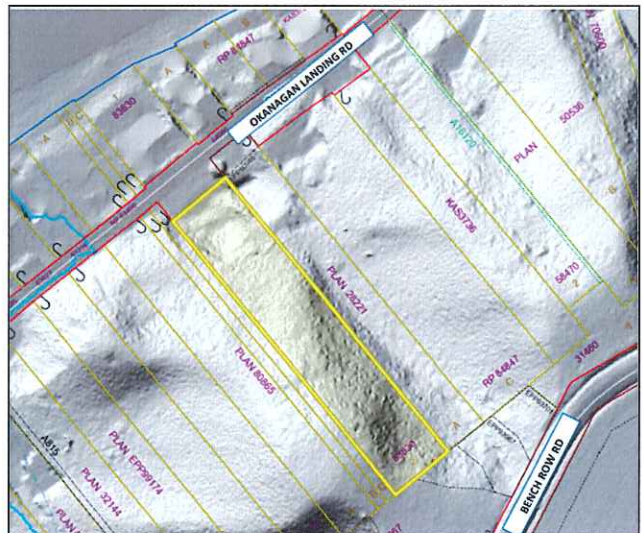


Figure 3 : Lidar Imagery of Property

8. Administration supports the requested variance for the following reasons:

- a) The existing lot is zoned for residential purposes (i.e. R6 zoning);
- b) The applicant has retained a qualified geotechnical engineer to assess the site and make recommendations for the sale of the site. A restrictive covenant is recommended to be registered on title to ensure that the geotechnical engineering requirements are implemented at the building permit stage;
- c) Only portions of the proposed home are within the 30% slopes; and
- d) A restrictive covenant to be registered on title will ensure that no additional development or disturbance shall occur on the remaining portions of the subject property.

**C. Attachments**

Attachment 1 – Site plan  
Attachment 2 – R6 – Lakeshore Residential zoning  
Attachment 3 – Section 4.16.1 of Zoning Bylaw #5000  
Attachment 4 – Applicant support submissions

**D. Council's Strategic Plan 2019 – 2022 Goals/Action Items:**

The subject application involves the following goals/action items identified in Council's Strategic Plan 2019 – 2022:

- Review and streamline residential development process.

**E. Relevant Policy/Bylaws/Resolutions:**

1. The following provision of Zoning Bylaw #5000 is relevant to the subject application:

Section 4.16.1     Vernon's Official Community Plan (OCP) establishes Development Permit Areas (DPAs) for all areas within the City of Vernon. Vernon's Hillside Guidelines and Regulations Policy defines hillsides and provides Goals and Objectives for development of lands on hillsides and slopes under 30%. No construction of a building, structure or swimming pool is permitted on slopes 30% or greater.

2. The *Local Government Act* provides Council with the authority to vary local bylaws based on specific considerations. The granting of such variances does not set precedence within the community for future variances to be based upon, as each variance application must be evaluated on its own merit and potential implications to the whole community and the specific neighbourhood.

**BUDGET/RESOURCE IMPLICATIONS:**

N/A

Prepared by:

Approved for submission to Council:

X

\_\_\_\_\_  
Signer 1

\_\_\_\_\_  
Will Pearce, CAO

Craig Broderick  
Manager, Current Planning

Date: \_\_\_\_\_

X

\_\_\_\_\_  
Signer 2

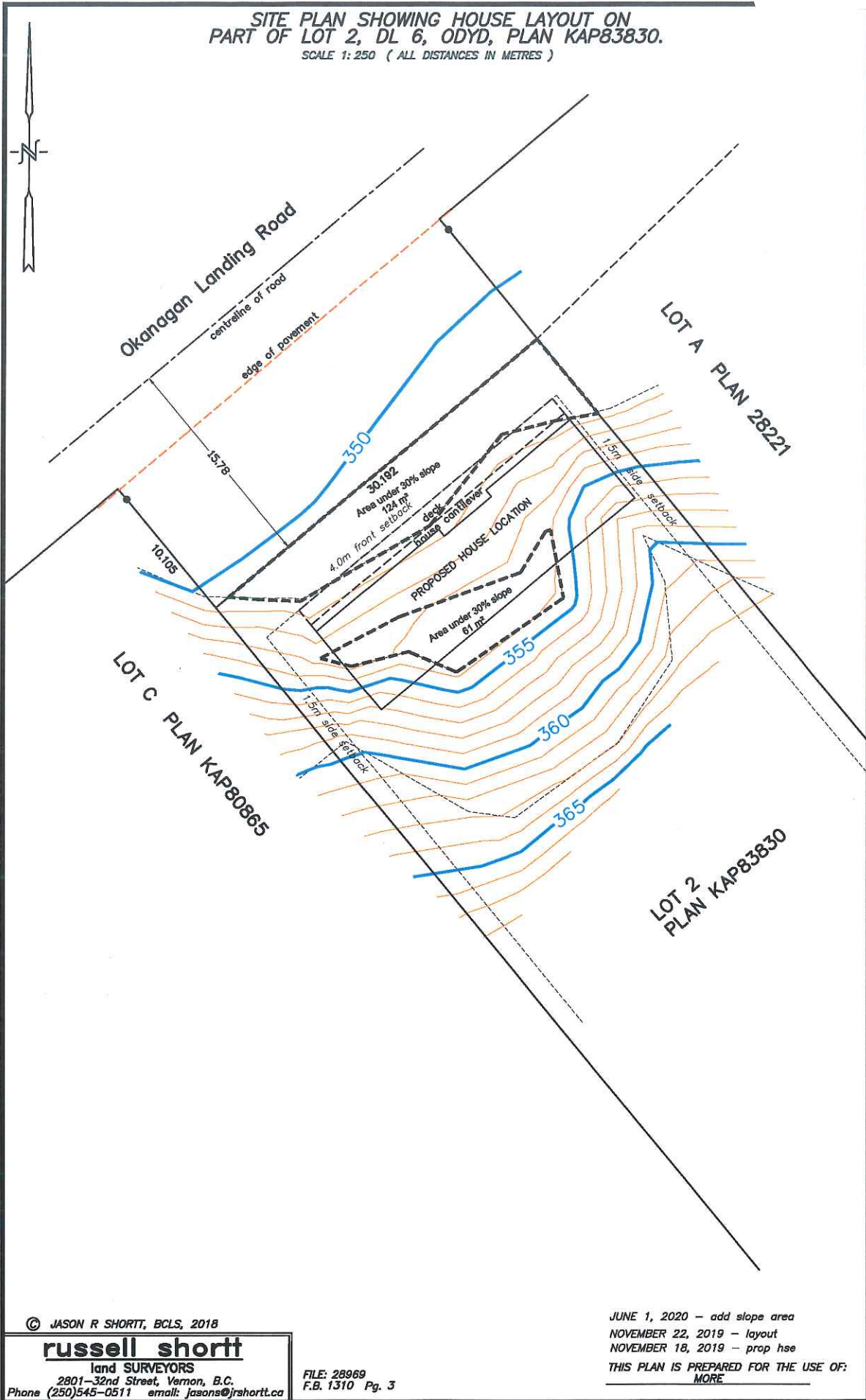
Kim Flick  
Director, Community Infrastructure and Development

**REVIEWED WITH**

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Corporate Services                     | <input type="checkbox"/> Operations           | <input checked="" type="checkbox"/> Current Planning                     |
| <input type="checkbox"/> Bylaw Compliance                       | <input type="checkbox"/> Public Works/Airport | <input checked="" type="checkbox"/> Long Range Planning & Sustainability |
| <input type="checkbox"/> Real Estate                            | <input type="checkbox"/> Facilities           | <input checked="" type="checkbox"/> Building & Licensing                 |
| <input type="checkbox"/> RCMP                                   | <input type="checkbox"/> Utilities            | <input checked="" type="checkbox"/> Engineering Development Services     |
| <input checked="" type="checkbox"/> Fire & Rescue Services      | <input type="checkbox"/> Recreation Services  | <input type="checkbox"/> Infrastructure Management                       |
| <input type="checkbox"/> Human Resources                        | <input type="checkbox"/> Parks                | <input type="checkbox"/> Transportation                                  |
| <input type="checkbox"/> Financial Services                     |   | <input type="checkbox"/> Economic Development & Tourism                  |
| <input checked="" type="checkbox"/> COMMITTEE: APC (Octo.13/21) |   |  |
| <input type="checkbox"/> OTHER:                                 |   |  |

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SITE PLAN SHOWING HOUSE LAYOUT ON  
PART OF LOT 2, DL 6, ODYD, PLAN KAP83830.  
SCALE 1:250 ( ALL DISTANCES IN METRES )



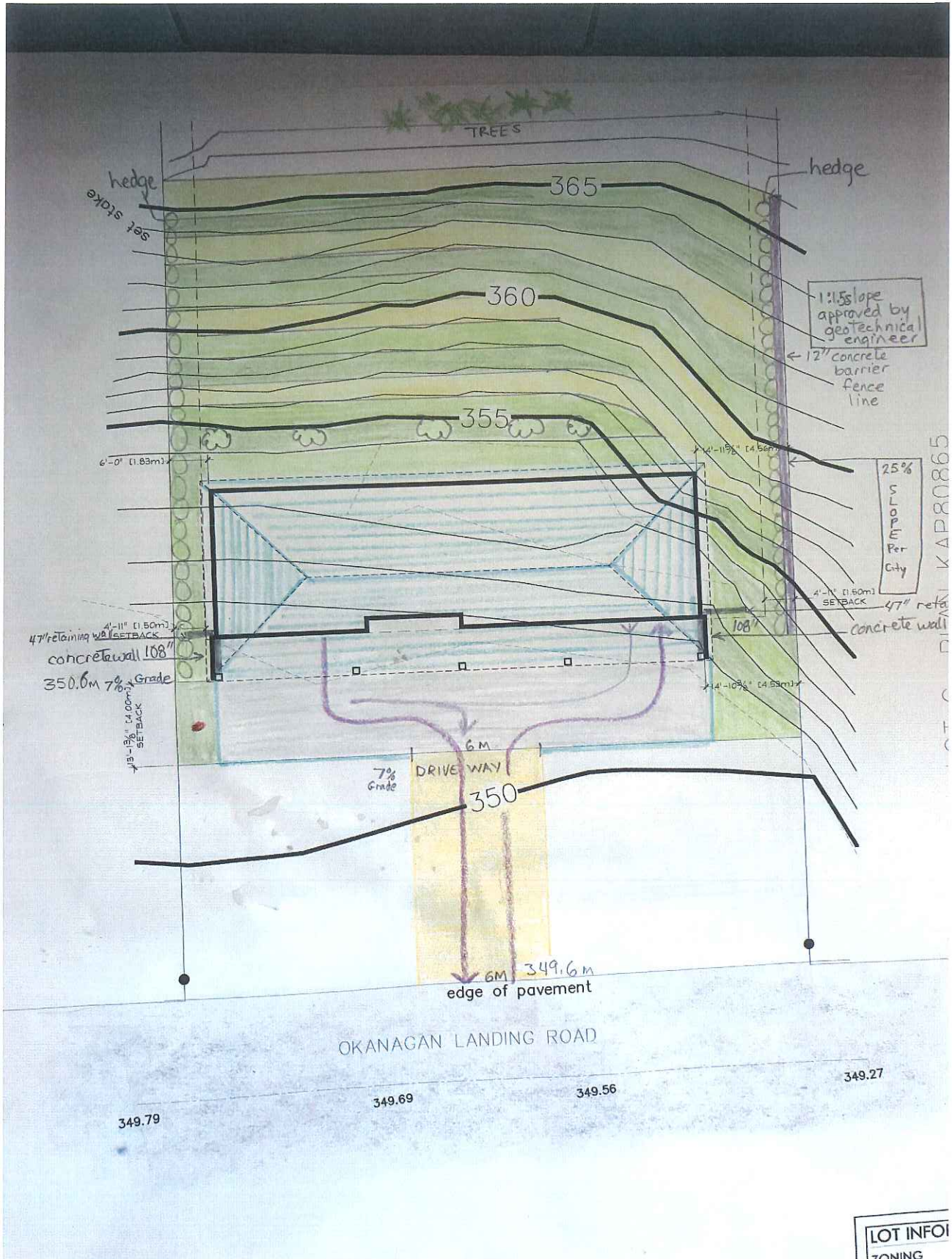
© JASON R SHORTT, BCLS, 2018

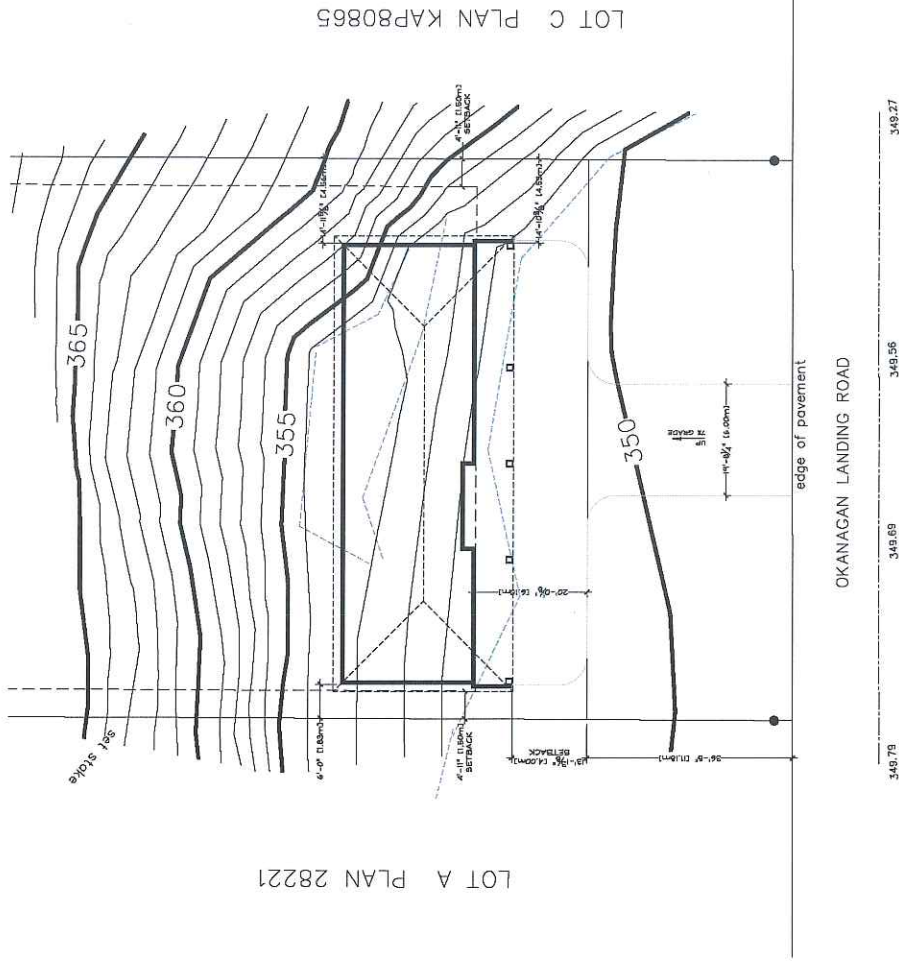
**russell shortt**

land SURVEYORS  
2801-32nd Street, Vernon, B.C.  
Phone (250)545-0511 email: jasons@jrshortt.ca

FILE: 28969  
F.B. 1310 Pg. 3

JUNE 1, 2020 - add slope area  
NOVEMBER 22, 2019 - layout  
NOVEMBER 18, 2019 - prop hse  
THIS PLAN IS PREPARED FOR THE USE OF:  
MORE



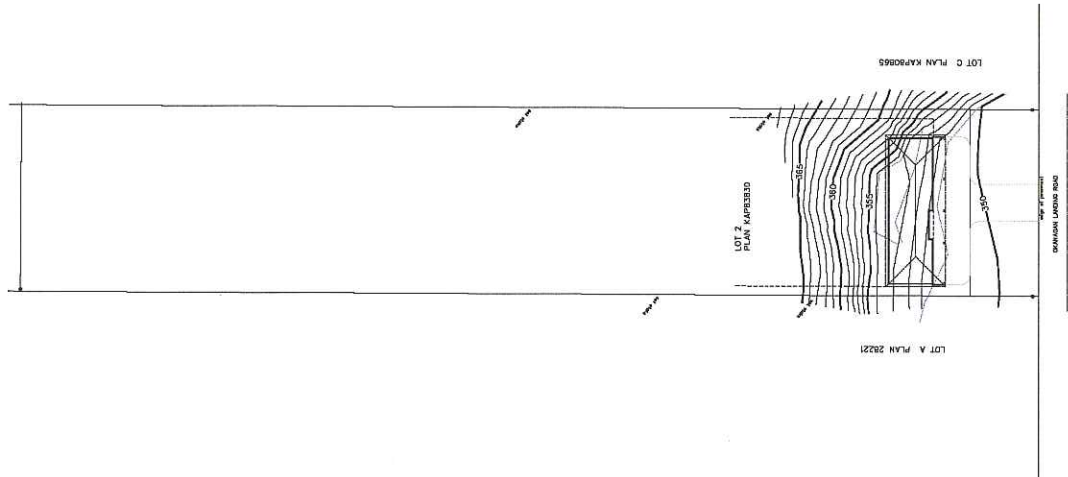


LOT A PLAN 28221

SITE PLAN  
3/32" = 1'-0"

LOT COVERAGE

MAIN FLOOR	= 1,630 SQ.FT.
TOTAL FOOTPRINT	= 1,630 SQ.FT.
TOTAL LOT SQ/FT	= 50,718 SQ.FT.
TOTAL FOOTPRINT	= 1,630 SQ.FT.
TOTAL COVERAGE	= 0.03% COVERAGE



**LOT INFORMATION**

TONING: R6  
LEGAL DESCR.: LOT 2, PLAN KAP8330  
CIVIC ADDRESS: 8092 OKANAGAN LANDING RD, VERNON, BC  
LOT AREA: 50,718 SF  
PARCEL COVERAGE: 0.0077%

**TGM**  
Drafting & Design  
Tom Masters  
Kelowna, BC  
250.877.2446  
tom@tgm.ca@gmail.com

SCALE: AS NOTED  
DATE: JUNE 14/20  
SHEET NO: **A1**  
**SITE PLAN**

"More Residence"

LOT 2, PLAN KAP8330, 8092 OKANAGAN LANDING ROAD, VERNON, BC



## 9.7 R6 : Lakeshore Residential

### 9.7.1 Purpose

The purpose is to provide a **zone** for the **development** of residential housing along the lakefront in the form of **single detached**, **semi-detached** or **duplex housing**. The R6c sub-zoning district allows for **care centre, major** as an additional use. The R6h sub-zoning district allows for **home based business, major** as an additional use. *(Bylaw 5467)*

### 9.7.2 Primary Uses

- **care centre, major** *(use is only permitted with the R6c sub-zoning district)*
- **duplex housing**
- **semi-detached housing**
- **single detached housing**

### 9.7.3 Secondary Uses

- **bed and breakfast homes** *(in single detached housing or semi-detached housing or duplex housing only) (Bylaw 5498)*
- **boarding rooms**
- **care centre, minor**
- **docks, private**
- **home based businesses, minor**
- **home based businesses, major** *(in single detached housing only) (use is only permitted with R6h sub-zoning district)*
- **secondary suites** *(in single detached housing only)*

### 9.7.4 Subdivision Regulations

- Minimum **lot width** is 18.0m, except it is 20.0m for a **corner lot**. In the case of an **irregular lot** or **panhandle-shaped lot**, the minimum **lot width** shall be determined as described in the respective definitions of a **panhandle lot** and **irregular-shaped lot**.
- Minimum **lot area** is 560m<sup>2</sup> with one **dwelling** or 1120m<sup>2</sup> with two **dwellings**. The minimum **lot area** is 10,000m<sup>2</sup> if the **lot** is not serviced by a **community sewer system**.

### 9.7.5 Party Wall Subdivision Regulations

Lot Type	Minimum Lot area		Minimum Lot Width	
	interior	corner	interior	corner
<b>Semi-Detached Housing</b>	560m <sup>2</sup>	600m <sup>2</sup>	9.0m	10.0m

### 9.7.6 Development Regulations

- Maximum **site coverage** is 40% and together with driveways, parking areas and **impermeable surfaces** shall not exceed 50%.
- Maximum density of **dwelling** units connected to a **community sewer system** shall be 1 **dwelling** unit per 560 sq. m. of lot area.
- Maximum density of **dwelling** units connected to a septic sewer system shall be 1 **dwelling** unit per 10,000 sq. m. (1ha) of lot area.
- Maximum **height** is the lesser of 10.0m or 2.5 **storeys**, except it is 4.5m for **secondary buildings** and **secondary structures**.

- Minimum **front yard** is 4.0m and it is 6.0m from a garage or **carport** to the back of curb or sidewalk for vehicular entry, or it is 2.6m to the side of the garage and front façade for side-entry garage and driveway layouts.
- Minimum **side yard** is 1.5m, except it is 4.0m from a **flanking street**. Where there is no direct vehicular access to the **rear yard** or to an attached garage or **carport**, one **side yard** shall be at least 3.0m. The minimum **side yard** setback for shared interior **party walls** shall be 0.0m.
- Minimum **rear yard** is 7.5m, except it is 1.0m for **secondary buildings**. Where the **lot width** exceeds the **lot depth**, the minimum **rear yard** is 4.5m provided that one **side yard** shall have a minimum width of 4.5m.
- The maximum **height** of any vertical wall element facing a **front, flanking or rear yard** (including **walkout basements**) is the lesser of 6.5m or 2.5 **storeys**, above which the **building** must be **set back** at least 1.2m.

### 9.7.7 Other Regulations

- In order for bareland strata **development** to be consistent with the character of the surrounding neighborhood, the strata plan shall be considered as one **site** for defining the overall use, **density** and **site coverage**.
- The above noted **subdivision** and **development** regulations shall be applied to each strata **lot** within the strata plan.
- Minimum 7.5m horizontal setback of any **building** from the **natural boundary**.
- There shall be no more than two **dwelling** units per **lot**.
- Development Permit approval of a **secondary suite** on a **lot** not connected to a **community sewer system** is subject to the verification by the *City's Engineering Department* of sufficient septic tank or Engineered Secondary Sanitary Treatment Process capacity and approval by the *Health Authority*.
- A minimum area of 25m<sup>2</sup> of private open space shall be provided per **dwelling**.
- In addition to the regulations listed above, other regulations may apply. These include the general **development** regulations of Section 4 (secondary **development, yards**, projections into **yards**, lighting, agricultural setbacks, etc.); the specific use regulations of Section 5; the **landscaping** and fencing provisions of Section 6; and, the parking and loading regulations of Section 7.
- As per Section 4.10.2 - All **buildings** and **structures, excluding perimeter fencing (garden walls and fences)** on **lots abutting** City Roads as identified on Schedule "B" shall not be sited closer to the City Road than the setback as per the appropriate zone measured from the offset Rights of Way as illustrated on Schedule "B".  
(Bylaw 5440)

**Excerpt from Zoning Bylaw #5000**

**4.16 Hillside Development Areas**

4.16.1 Vernon's Official Community Plan (OCP) establishes Development Permit Areas (DPAs) for all areas within the City of Vernon. Vernon's Hillside Guidelines and Regulations Policy defines hillsides and provides Goals and Objectives for development of lands on hillsides and slopes under 30%. No construction of a building, structure or swimming pool is permitted on slopes 30% or greater.

4.16.2 No subdivision of land creating lots is permitted where less than 100m<sup>2</sup> of contiguous buildable area which meets all bylaw regulations herein for each lot is provided, with the exception of boundary lot adjustments.

*(Bylaw 5433)*



Bert More  
BP 7434

8092 Okanagan Hl. Rd.  
R6 lot 2 Plan KAP 83830

April 27, 2020

Dear Sir/Madame:

I understand now I need a variance

to build my retirement home at the bottom of the hill side set back as required for future road expansion.

So I had obtained Applebruin engineering for the geotechnical report originally required to build into the slope. I have BPL Hydroseeding going to spray the slope at the back yard with native plants. Jason Shortt will provide the surveying for 1:1.5 slope behind the house and a 25% grade beside the house next to the basement level. With 47" retaining walls at the street side of the slope.

The recommended best slope material I will use for the strongest slope are first Probanics then FlexterraHP-FGM. After mowing in native shrubs and bushes tiered up the hillside with short trees at the house.

The house will sit 7% grade above the road to meet the boulevard grade required with a 6 meters driveway. The house will be set back 6 meters from the property line with enough room to back out and be able to drive forward from my parking area to the road. My slope will match the neighbours starting a little higher.

Thank you for your consideration. Bert More

## Info from applicant

The land where the house will be built was less than 30% slope for the most part with the exception of the rear corners of the house. The building site has been preloaded for construction of my 3 story house. Earth will be removed to reduce slope on back side to allow BPL hydroseeding to spray a City natural seed with a jute mat then I can plant rows of natural bushes plus hedge up the property line to 100 ft. stakes. There will be trees at bottom of the slope behind the house with a French drain plus drainage pipe to redirect any surface water that may happen in spring thaw. Usual weeping tile around foundation to move water to front of house. This will make hillside stronger and able to use waters that drain in earth on the hill right up to the natural grove of trees 120 feet up. Soil type is excellent for drainage and for a building site as per Applebruin engineering. The height of the house is below 10 meters and the grade of the driveway is 7% from garage to road across boulevard. The slope will be 25% beside basement side walls to meet the required coverage of the concrete walls to a 47" retaining wall at basement patio to allow for exit off patio. A 20' wide driveway towards middle of the house allows for backing out of garages across front of the other garage so that there is no need to back into traffic. Garage doors are set back 20'6" from property line at least with no obstructions at property line. I hope I have captured all your concerns

Elevation of roof is below 10 meters as submitted, service report was sent and driveway 6 m wide is drawn on print with garage set back 20 feet. Building site slope was less than 30 degree before earth was removed up to building site to clean up weeds that were a potential fire hazard as discussed with bylaw officer Mr. Elliot previously. Let me know what other information is required as you have the title search from Russel Shortt Survey. I need to remove the earth that is loading the building site.



# THE CORPORATION OF THE CITY OF VERNON REPORT TO COUNCIL

**SUBMITTED BY:** Michelle Austin  
Current Planner

**COUNCIL MEETING:** REG  COW  I/C   
**COUNCIL MEETING DATE:** November 22, 2021  
**REPORT DATE:** October 19, 2021  
**FILE:** 3090-20 (DVP00532)

**SUBJECT:** DEVELOPMENT VARIANCE PERMIT APPLICATION FOR MT FOSTHALL DRIVE

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## PURPOSE:

To review Development Variance Permit Application #DVP00538 to allow construction on slopes 30% or greater and subdivision of land where less than 100m<sup>2</sup> of contiguous buildable area is provided.

## RECOMMENDATION:

THAT Council not approve Development Variance Permit Application #DVP00532 on Lot B, Sec 26, Tp 9, ODYD, Plan KAP77864 (Mt Fosthall Drive) to vary the Zoning Bylaw #5000, Section 4.16 – Hillside Development Areas regulations for Proposed Strata Lot 1.

## ALTERNATIVES & IMPLICATIONS:

1. THAT Council approve Development Variance Permit Application #DVP00532 on Lot B, Sec 26, Tp 9, ODYD, Plan KAP77864 (Mt Fosthall Drive) by varying Zoning Bylaw #5000, Section 4.16 – Hillside Development Areas regulations for Proposed Strata Lot 1 as follows:
  - a) Section 4.16.1 to allow construction of buildings, structures or swimming pools on a maximum slope of 30%; and
  - b) Section 4.16.2 to allow subdivision of land where a minimum of 100m<sup>2</sup> of contiguous buildable area.

AND FURTHER that, prior to the issuance the Development Variance Permit Application #DVP00532, the following conditions be satisfied:

- a) That the proposed bareland strata subdivision plan, (Attachment 2), dated September 17, 2021, showing the slopes and contiguous buildable area of proposed Strata Lot 1, be attached to and form part of DVP00538;
- b) That the Geohazard Assessment, (Attachment 4), dated March 29, 2021 be attached to and form part of DVP00538; and
- c) That the owner obtains a Hillside Environmental Development Permit, according to the Hillside Guidelines 2008 and Environmental Management Areas Strategy 2014 prior to issuance of the development variance permit.

*Note: Approval of the requested variances would enable the owner to pursue subdivision and construction approvals for all proposed strata lots 1 – 6, rather than lots 2 – 6. This alternative*

recommendation disagrees with the City of Vernon's Zoning Bylaw general development regulations for hillside development put in place for a number of reasons including the protection of ridgeline views and environmentally sensitive areas and drainage management. Supplemental studies required to process a Hillside Environmental Development Permit would help to inform the decision-making process, related to the proposed subdivision application.

**ANALYSIS:**

**A. Committee Recommendations:**

At its meeting of October 26, 2021, the Advisory Planning Committee passed the following resolution:

*"As cited by the Committee"*

**B. Rationale:**

1. The subject property is located in the upper northwest portion of Middleton Mountain, adjacent to Hawks Landing, an existing strata development located at 1040 Mt. Revelstoke Place, as shown in Figures 1 and 2.
2. The property is currently regulated by a Land Use Contract (LUC). The owner has a concurrent application (#LUC00024) in progress to discharge the LUC from the title of the property, allowing Zoning Bylaw #5000 and the underlying Small Lot Residential (R4) zone (Attachment 1) to govern.
3. If Council discharges the LUC, Zoning Bylaw #5000, the R4 zone will regulate use and development of the subject property. If Council does not discharge the LUC, the property will continue to be regulated by it until June 30, 2024, when all LUCs in the province will be automatically terminated under the Local Government Act (LGA). At that time, the underlying R4 zoning will govern the land use of the property.
4. The property is currently vacant and the owner would like to subdivide into 6 bare land strata lots with the access road as common property. The proposed bareland strata subdivision plan (Attachment 2) shows the proposed lot layout, roadway, building envelopes, slopes and contiguous buildable area based on the R4 zone, assuming the LUC is discharged.
5. Proposed strata lot 1 does not meet the Hillside Development Area Regulations in Section 4.16 of Zoning Bylaw #5000 (Attachment 3):

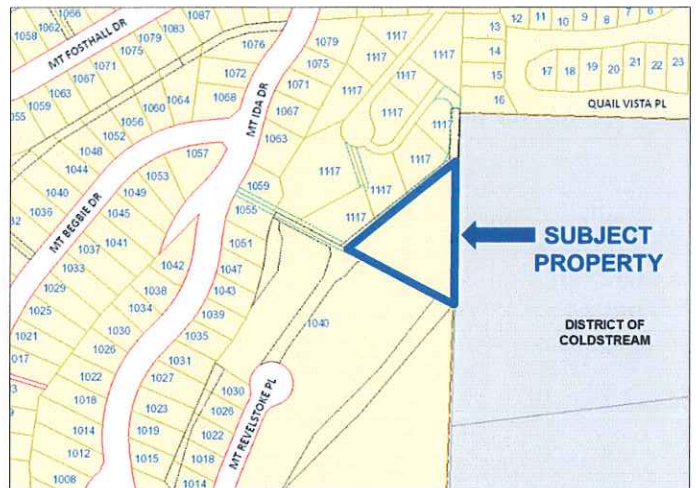


Figure 1: Property Location Map



Figure 2: Aerial Photo of Property

- Section 4.16.1 – No construction of a building, structure or swimming pool is permitted on slopes 30% or greater.
  - Figure 3 shows a 3D representation of the property elevations (in grey) overlaid with slope  $\geq 30\%$  (in orange). Most of proposed lot 1 (Attachment 2), and its building envelope, consist of slopes  $>30\%$ .
- Section 4.16.2 – No subdivision of land creating lots is permitted where less than 100m<sup>2</sup> of contiguous buildable area which meets all Zoning Bylaw regulations for each lot is provided.



Figure 3: LIDAR with  $\geq 30\%$  Slopes

- Proposed Lot 1 has a contiguous buildable area of only 51m<sup>2</sup> (Attachment 2) which indicates that the lot is not able to support the footprint of a standard house without significant land alteration. The proposed variance would result in land alteration to create a larger building pad in excess of 51m<sup>2</sup>.

6. Administration does not support the variance requests for the following reasons:

- a) The recommendation prohibits the creation of, and construction on, proposed strata lot 1 due to topographic considerations. The owner has the ability to pursue subdivision and construction approvals for proposed strata lots 2 – 6.
- b) The Environmental Management Strategy (EMS) identifies almost the entire property as having a medium conservation value – areas of moderate ecological importance based on ecosystem rarity and sensitivity and/or value to rare wildlife. This triggers the requirement for an Environmental Development Permit (DP) prior to construction, subdivision and land alteration. A DP application has not been submitted nor has a site level environmental assessment been provided to evaluate the appropriateness of the proposed six lot subdivision.
- c) The Zoning Bylaw's construction prohibition on  $\geq 30\%$  is married with the Official Community Plan (OCP) Hillside Guidelines 2008 and should not be viewed in isolation. A brief geohazard assessment report (Attachment 4) has been provided which does not adequately address the Hillside Guidelines 2008 requirements nor has a Hillside DP been applied for. Therefore, it is difficult to evaluate the appropriateness of the development proposal in its entirety with respect to protecting environmental features, blending with the natural setting, preserving ridgeline views and managing stormwater.
- d) Proposed lot 1 fails both Zoning Bylaw "tests" for appropriate hillside development 1) steepness and 2) sufficient contiguous buildable area. This indicates that the lot is challenging to develop and may not support the footprint of a standard house without significant challenges and substantial land alteration.

**C. Attachments:**

- Attachment 1 – Zoning Bylaw #5000, Small Lot Residential (R4) Zone
- Attachment 2 – Proposed Bareland Strata Subdivision
- Attachment 3 – Zoning Bylaw #5000, Section 4.16 – Hillside Development Areas
- Attachment 4 – Geohazard Assessment

**D. Council's Strategic Plan 2019 – 2022 Goals/Action Items:**

The subject application involves the following goals/action items in Council's Strategic Plan 2019 – 2022:

- N/A

**E. Relevant Policy/Bylaws/Resolutions:**

1. The following provision of Zoning Bylaw #5000, Section 4.16 – Hillside Development Areas – Development Regulations are relevant to the subject application:

- Section 4.16.1 – No construction of a building, structure or swimming pool is permitted on slopes 30% or greater.
- Section 4.16.2 – No subdivision of land creating lots is permitted where less than 100m<sup>2</sup> of contiguous buildable area which meets all Zoning Bylaw regulations for each lot is provided.

**BUDGET/RESOURCE IMPLICATIONS:**

N/A

---

Prepared by:

Approved for submission to Council:

X

\_\_\_\_\_  
Signer 1

\_\_\_\_\_  
Will Pearce, CAO

Date: \_\_\_\_\_

Craig Broderick  
Manager, Current Planning

X

\_\_\_\_\_  
Signer 2

Michelle Austin  
Current Planner

X

\_\_\_\_\_  
Signer 3

Kim Flick  
Director, Community Infrastructure and Development

**REVIEWED WITH**

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Corporate Services     | <input type="checkbox"/> Operations           | <input type="checkbox"/> Current Planning                     |
| <input type="checkbox"/> Bylaw Compliance       | <input type="checkbox"/> Public Works/Airport | <input type="checkbox"/> Long Range Planning & Sustainability |
| <input type="checkbox"/> Real Estate            | <input type="checkbox"/> Facilities           | <input type="checkbox"/> Building & Licensing                 |
| <input type="checkbox"/> RCMP                   | <input type="checkbox"/> Utilities            | <input type="checkbox"/> Engineering Development Services     |
| <input type="checkbox"/> Fire & Rescue Services | <input type="checkbox"/> Recreation Services  | <input type="checkbox"/> Infrastructure Management            |
| <input type="checkbox"/> Human Resources        | <input type="checkbox"/> Parks                | <input type="checkbox"/> Transportation                       |
| <input type="checkbox"/> Financial Services     |   | <input type="checkbox"/> Economic Development & Tourism       |
| <input type="checkbox"/> COMMITTEE:             |   |   |
| <input type="checkbox"/> OTHER:                 |   |   |

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## R4

## 9.5 R4 : Small Lot Residential

### 9.5.1 Purpose

The purpose is to provide a **zone** for **single detached housing**, and compatible uses, on smaller urban serviced **lots**. The R4c sub-zoning district allows for **care centre, major** as an additional use. The R4h sub-zoning district allows for **home based business, major** as an additional use. (*Bylaw 5467*)

### 9.5.2 Primary Uses

- **care centre, major** (*use is only permitted with the R4c sub-zoning district*)
- **single detached housing**
- **semi-detached housing** (*Bylaw 5715*)

### 9.5.3 Secondary Uses

- **boarding rooms**
- **bed and breakfast homes** (in single detached housing only) (*Bylaw 5498*)
- **care centres, minor**
- **home based businesses, minor**
- **home based businesses, major** (*use is only permitted with the R4h sub-zoning district*)
- **secondary suites (in single detached housing only)**

### 9.5.4 Subdivision Regulations

- Minimum **lot width** is 10.0m, except it is 14.0m for a **corner lot**.
- Minimum **lot area** is 320m<sup>2</sup>, or 10,000m<sup>2</sup> if not serviced by a **community sewer system**.

### 9.5.5 Development Regulations

- Maximum **site coverage** is 40% and together with driveways, parking areas and **impermeable surfaces** shall not exceed 50%.
- Maximum **height** is the lesser of 10.0m or 2.5 **storeys**, except it is 4.5m for **secondary buildings and structures**.
- Minimum **front yard** is 3.5m.
- Minimum **side yard** is 1.2m for a 1 or 1.5 **storey** portion of a **building** and 1.5m for a 2 or 2.5 **storey** portion of a **building**, except it is 3.5m from a **flanking street**. Where there is no direct vehicular access to the **rear yard** or to an attached garage or **carport**, one **side yard** shall be at least 3.0m.
- For **party wall semi-detached housing** one **side yard**, not **flanking a street**, may be reduced to 0.0m. There shall be no windows or doors on the side of the **dwelling** without the **side yard**.
- Minimum **rear yard** is 6.0m for a 1 or 1.5 **storey** portion of a **building** and 7.5m for a 2 or 2.5 **storey** portion of a **building**, except it is 1.0m for **secondary buildings**. Where the **lot width** exceeds the **lot depth**, the minimum **rear yard** is 4.5m provided that one **side yard** shall have a minimum width of 4.5m.
- The maximum **height** of any vertical wall element facing a **front, flanking or rear yard** (including **walkout basements**) is the lesser of 6.5m or 2.5 **storeys**, above which the **building** must be **set back** at least 1.2m.

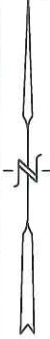
### 9.5.6 Other Regulations

- There shall be no more than one **single detached house** or one **semi-detached unit per lot**. *(Bylaw 5715)*
- Where **development** has access to a rear **lane**, vehicular access to the **development** is only permitted from the rear **lane**.
- One garage or **carport**, or the location for one, shall be provided on the **lot**.
- For strata developments, common recreation buildings, facilities and amenities may be included in the strata plan. Recreational buildings shall be treated as **secondary buildings** for the purpose of determining the **height** and **setbacks** of the **building** as specified in each **zone**.
- In addition to the regulations listed above, other regulations may apply. These include the general **development** regulations of Section 4 (secondary **development**, **yards**, projections into **yards**, lighting, agricultural setbacks, etc.); the specific use regulations of Section 5; the **landscaping** and fencing provisions of Section 6; and, the parking and loading regulations of Section 7.
- As per Section 4.10.2 - All **buildings and structures, excluding perimeter fencing (garden walls and fences) on lots abutting City Roads** as identified on Schedule "B" shall not be sited closer to the City Road than the setback as per the appropriate zone measured from the offset Rights of Way as illustrated on Schedule "B".  
*(Bylaw 5440)*

PROPOSED BARELAND STRATA SUBDIVISION OF LOT B, SEC 26, TP 9, ODYD, PLA

Attachment 2

SCALE 1: 500 ( ALL DISTANCES IN METRES )  
 CONTOUR INTERVAL = 1m



Setbacks:  
 front yard: 3.5m  
 side yard: 1.5m (for 2 or 2.5 storeys)  
 rear yard: 7.5m (for 2 or 2.5 storeys)



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**russell shortt**  
 land SURVEYORS  
 2801-32nd Street, Vernon, B.C.  
 Phone (250)545-0511 email: jasons@jrshortt.ca

FILE: 28408  
 F.B. 1287 Pg. 31

September 17, 2021  
 April 29, 2021

THIS PLAN IS PREPARED FOR THE USE OF:  
 Gabelhouse

#### 4.15 Development Covenants

4.15.1 At the time of rezoning, prior to bylaw adoption, City Council may at its discretion require the property owner to register a covenant on the title of the property limiting the permitted uses and/or densities within the approved land use zones, so as to reflect the specific approved development plan.

#### 4.16 Hillside Development Areas

4.16.1 Vernon's Official Community Plan (OCP) establishes Development Permit Areas (DPAs) for all areas within the City of Vernon. Vernon's Hillside Guidelines and Regulations Policy defines hillsides and provides Goals and Objectives for development of lands on hillsides and slopes under 30%. No construction of a building, structure or swimming pool is permitted on slopes 30% or greater.

4.16.2 No subdivision of land creating lots is permitted where less than 100m<sup>2</sup> of contiguous buildable area which meets all bylaw regulations herein for each lot is provided, with the exception of boundary lot adjustments.  
(Bylaw 5433)



March 29, 2021

1144219 BC Ltd.  
2092 Bennett Road  
Kelowna, BC V1V 2C2

ISSUED FOR USE  
FILE: 704-ENG.KGEO03583-01  
Via Email: [bgabelhouse@shaw.ca](mailto:bgabelhouse@shaw.ca)

**Attention:** Bob Gabelhouse

**Subject:** Mt. Fosthall Lot Geohazard Assessment

## 1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) have been retained by 1144219 BC Ltd. (the client) to undertake a geohazard assessment report for a proposed development at the "Mt. Fosthall Drive" property in Vernon, BC (the site) as shown see Figure 1.

Based on information provided by the client, we understand that a development permit is being sought to subdivide the property into six residential lots as shown in Appendix A. The City of Vernon has requested that the client provide a geotechnical report addressing potential hazards and slope stability and this report provides information to address that request.

## 2.0 FIELDWORK

Fieldwork for the project has included a walkover assessment and testpit exploration program that occurred on March 18, 2020. The walkover assessment involved checking the site as well as the land above and below the site for signs of previous slope instabilities, groundwater seepage and other geohazards.

The testpit exploration program included excavation of six testpits across the site to depths of up to 2.7 m, logging of soils encountered and collection of soil samples for laboratory soil classification testing. Detailed testpit logs are provided in Appendix B and testpit locations are shown in Figure 1. A summary of testpit locations and depth details is provided below in Table 2-1.

**Table 2-1: Summary of Testpit Location Details**

ID	Completed Depth (m)	Easting1 (m NAD83)	Northing <sup>1</sup> (m NAD83)
TP21-01	2.0	339487	5568230
TP21-02	1.0	339463	5568245
TP21-03	0.9	339448	5568256
TP21-04	1.8	339469	5568274
TP21-05	2.1	339493	5568298
TP21-06	2.7	339490	5568266

Notes: 1 - NAD = North American Datum 1983, Zone 11; Coordinates estimated from ESRI basemap service.

Tetra Tech Canada Inc.  
150, 1715 Dickson Avenue  
Kelowna, BC V1Y 9G6 CANADA  
Tel 250.862.4832 Fax 250.862.2941

### 3.0 LABORATORY TESTING

Laboratory testing was undertaken on three of the soil samples collected to help characterize materials overlying bedrock at the site. Testing included grain size analysis and moisture content. Detailed laboratory test results are attached in Appendix C and a summary of laboratory test results is presented in Table 3-1.

**Table 3-1: Summary of Testpit Location Details**

Sample ID	Depth (m)	Moisture Content (%)	Grain Size Analysis		
			Gravel (%)	Sand (%)	Fines (%)
TP21-01	1.3	14.9	16	60	24
TP21-04	1.0	10.4	30	57	13
TP21-06	1.5	4.0	21	65	14

### 4.0 SITE CONDITIONS

#### 4.1 Location and Topography

The property is located on the northwest slopes of Middleton Mountain and is bordered to the north, south and west by existing developments and to the east by undeveloped hillside. Based on a site walkover and City of Vernon 2016 contour data, most of the site has slopes of less than 17° (30%) (see Figure 2). The steeper sloped areas are mostly restricted to the western corner of the property and the rock cut along the northwestern property boundary.

#### 4.2 Geology

The site generally contains a thin layer of slope colluvium that is up to approximately 2.5 m thick over bedrock with isolated patches of glacial till. There are also a number of exposed bedrock outcrops at the site (see Figure 1). The materials over the bedrock are generally comprised of silty or gravelly sand.

The regional geological map for the area (Okulitch, A.V, 2013) suggests several rock types may be present at the site that include:

- Conglomerate, breccia, and undivided volcanic rocks.
- Ultramafic intrusive rock and dykes.
- Some sedimentary limestone and siltstone.

Observation of bedrock outcrop as well as rock cuts at the north and west of the site suggest that most rock at the site is likely to be comprised of breccia with some conglomerate and some intrusive dykes. In most testpits the upper 0.1 to 0.3 m of rock appeared to be highly to completely weathered and resembled a soil. Past this weathered horizon rock material, it generally becomes moderately weathered and is weak to moderately strong.

### 4.3 Groundwater

Groundwater was not encountered in any of the testpits during this investigation and no groundwater springs or seeps were noted at the site. Minor groundwater seepage was noted in the rock cut at the end of Mt. Revelstoke place (see Figure 1).

## 5.0 GEOHAZARDS

Our investigation did not indicate the presence of any significant geohazards at the site or in adjacent sites that were likely to affect this area at present. Likewise, it is our assessment that with suitable geotechnical design, the proposed subdivision and development of the site can occur in a safe manner.

Specific geotechnical design should be undertaken during detailed design but general recommendations with respect to geohazards based on our current assessment include:

- Given shallow bedrock, stormwater collection and dissipation at the site will need to be designed to accommodate an extremely low infiltration rate or stormwater will need to be discharge within any existing city drainage system.
- For general design purposes, building foundations or fill slopes should be set back a minimum of 5 m from the current top of rock cut (~ 3 m from the current fence line). Foundations may be able to extend close to the rock cut but would require specific geotechnical design.

## 6.0 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of 1144219 BC Ltd. and their agents. Tetra Tech Canada Inc. (operating as Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than 1144219 BC Ltd, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this document is subject to the Limitations on the Use of this Document attached in the Appendix or Contractual Terms and Conditions executed by both parties.

## 7.0 CLOSURE

We trust this document meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully Submitted,  
Tetra Tech Canada Inc.



FILE: 704-ENG.KGEO03583-01  
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Prepared by:  
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shane.greene@tetratech.com

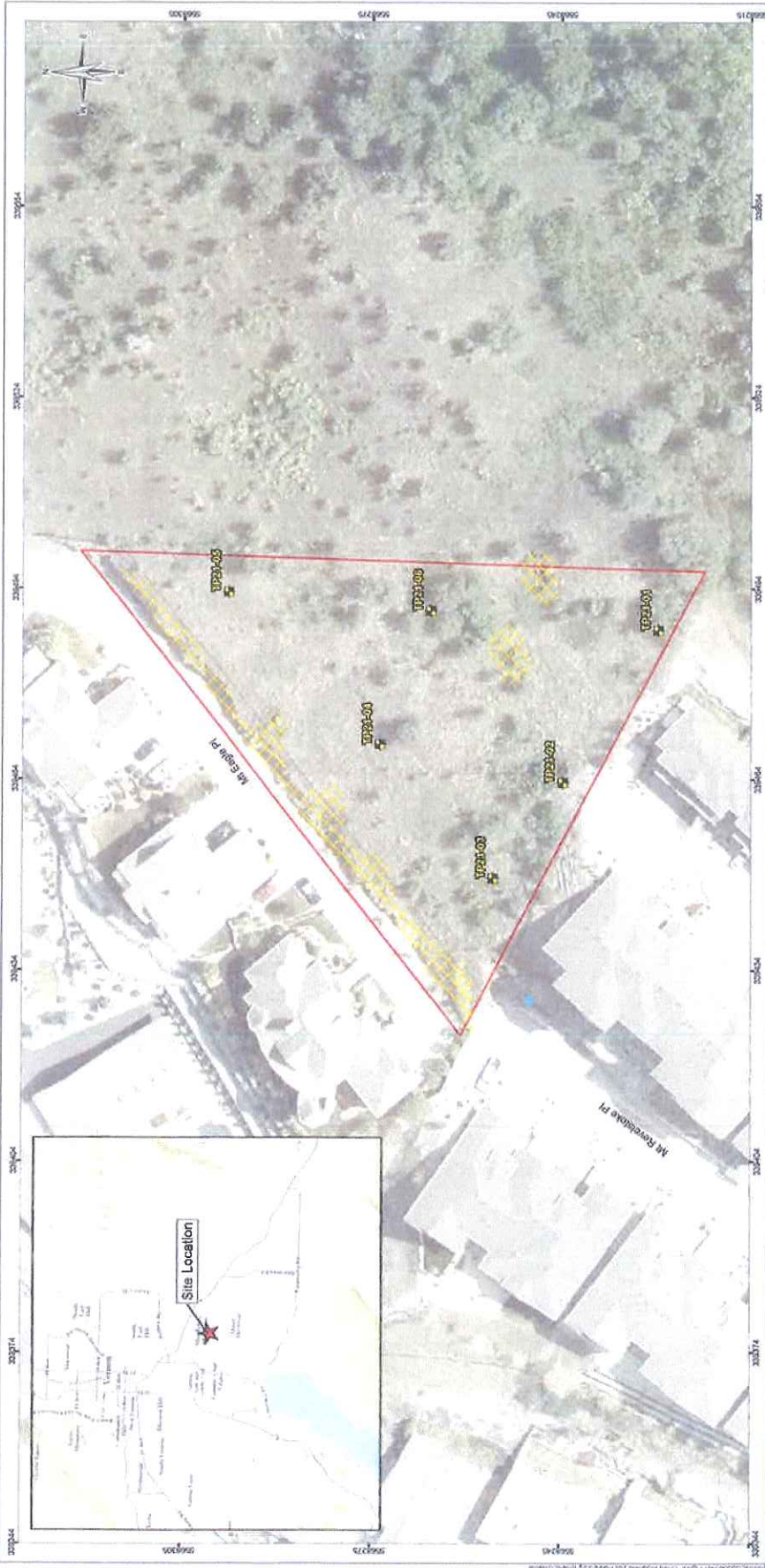
Reviewed by:  
German Martinez, P.Eng.  
Senior Geotechnical Engineer  
Engineering Practice  
Direct Line: 778.940.1224  
german.martinez@tetratech.com

/bi

Attachments

## FIGURES

- Figure 1      Site Location and Layout Plan  
Figure 2      Slope and Contour Plan



**MT FOSTHALL LOT  
GEOHAZARD ASSESSMENT**

**Site Location and Layout Plan**

PROJECT NO.	1144219 BC Ltd
CLIENT	TETRA TECH
DATE	March 25, 2021
PROJECT NO.	1144219 BC Ltd
DATE	March 25, 2021
PROJECT NO.	1144219 BC Ltd
DATE	March 25, 2021

**NOTES**

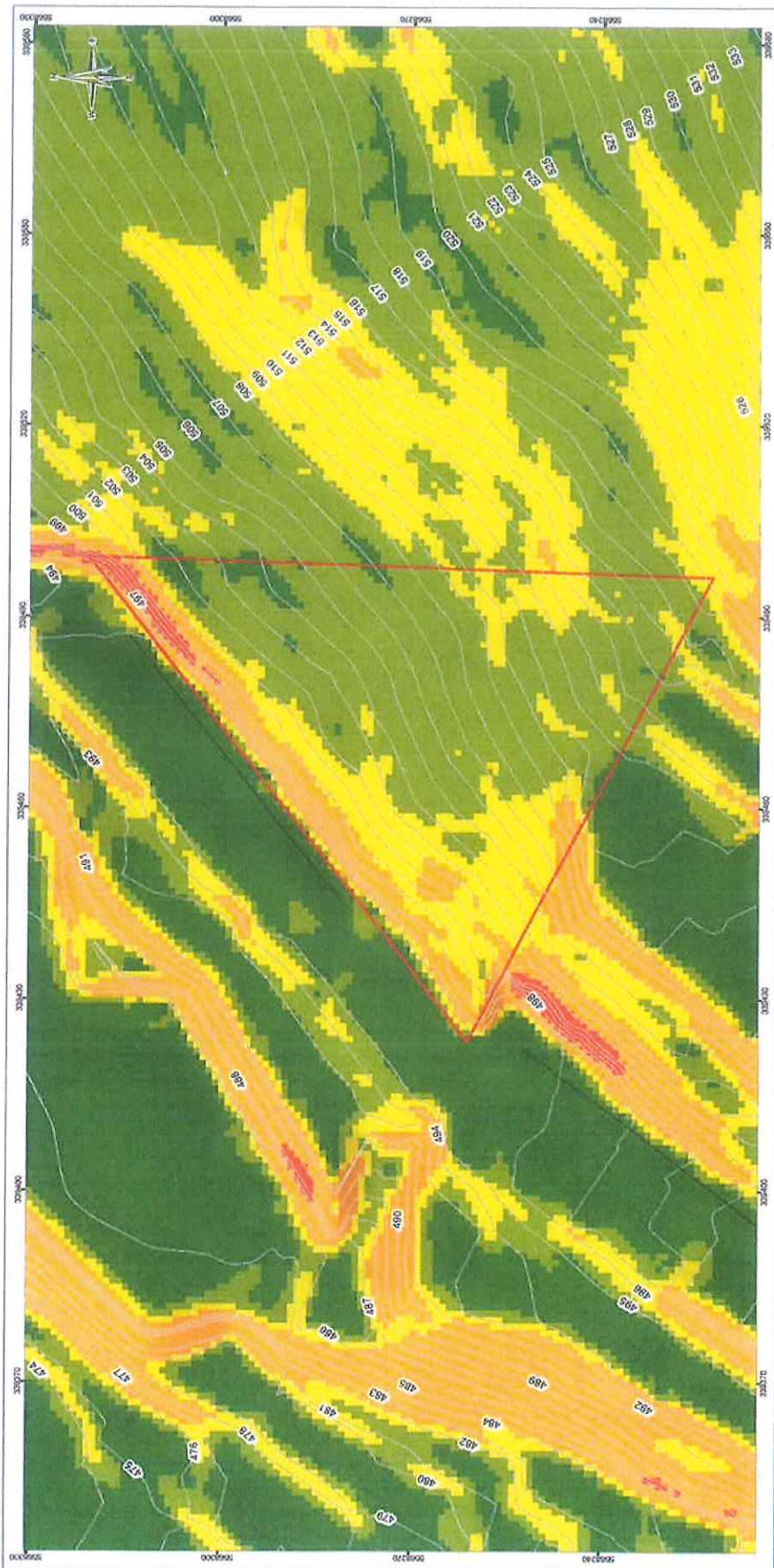
- Base data sourced from the City of Vancouver (2014)
- Property boundary sourced from the City of Vancouver (2021)
- Test pit locations from BSR's Topographic Basemap Service

**LEGEND**

- Test Pit Location
- Minor Groundwater Seepage
- Approximate Area of Bedrock Outcrop
- Property Boundary

**STATUS**  
RSUB FOR USE

**Figure 1**



**LEGEND**

- 2016 City of Vernon 1 m Elevation Contour
- Property Boundary
- Slope Angle (degrees)
  - 0 - 10
  - 10 - 17
  - 17 - 25
  - 25 - 45
  - 45 - 90

**NOTES**

- Base data source:
  - Topographic map data, City of Vernon 2011
  - Slope and elevation contours based on 2011 City of Vernon 1 m elevation contours

**MT FOSTHALL LOT  
GEOHAZARD ASSESSMENT**

**Slope and Contour Plan**

PROJECT NO.	1144219 BC Ltd
CLIENT	TETRA TECH
DATE	March 26, 2021
PROJECT NO.	1144219 BC Ltd
CLIENT	TETRA TECH
DATE	March 26, 2021

**STATUS**  
ISSUED FOR USE

**Figure 2**

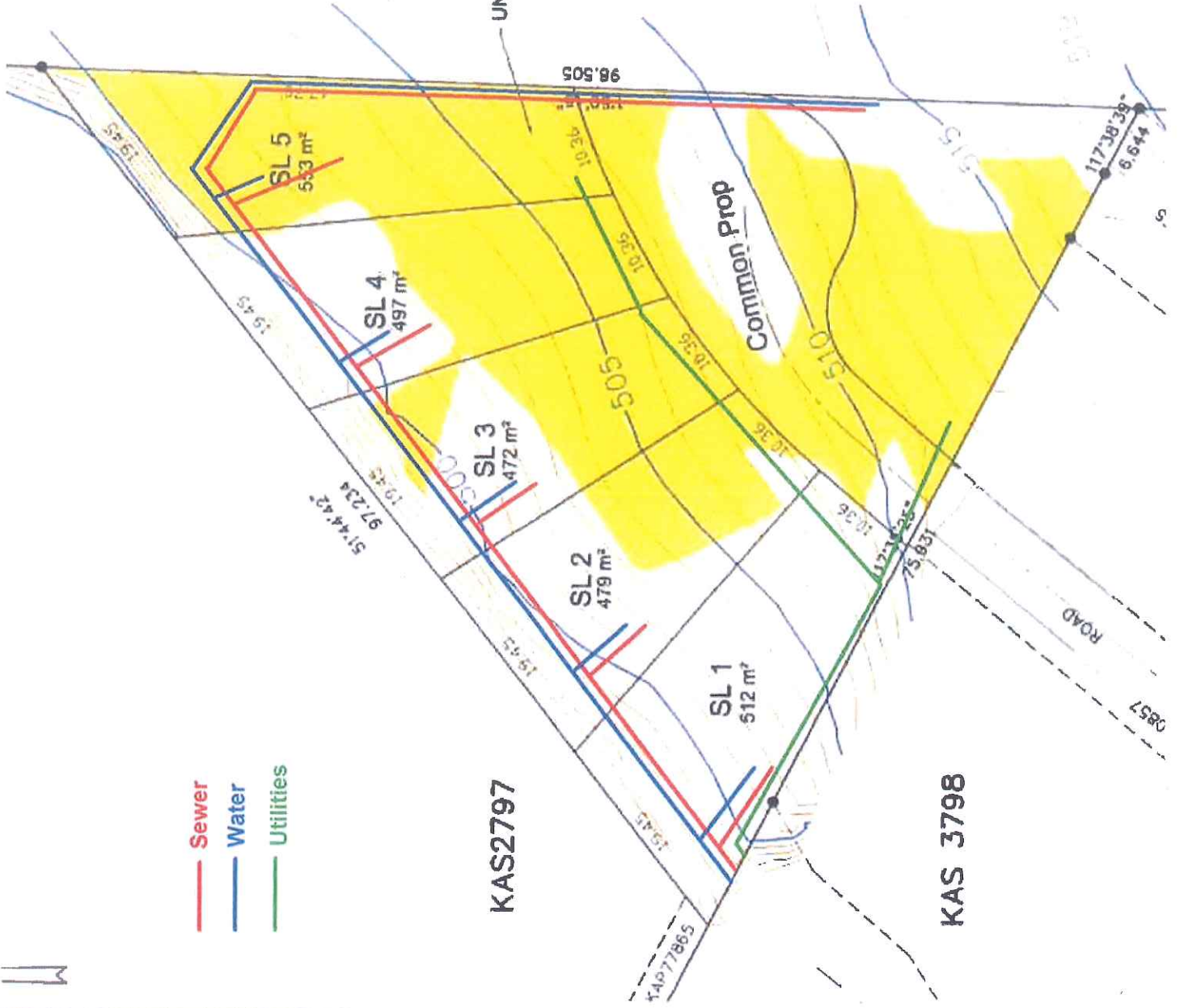
## APPENDIX A

### SUPPLIED INFORMATION

LOT G  
PLAN 11207

UNDER 30% SLOPE  
1891 m<sup>2</sup>

- Sewer
- Water
- Utilities



## APPENDIX B

### TESTPIT LOGS

1144219 BC Ltd

# Testpit No: TP21-01

Project: Fosthall Lot Geohazard Assessment

Project No: ENG.KGEO03583-01

Location: Mt Fosthall Lot

Vernon

UTM: 339487 E; 5568230 N; Z 11 NAD83

Depth (m)	Method Core Diameter (mm)	Soil Description	Graphical Representation	Particle Size Distribution				Field Vane (kPa)			Depth (ft)
				Sample Type	Gravel (%)	Sand (%)	Fines		Plastic Limit	Moisture Content	
Silt (%)	Clay (%)	Post-Peak	Peak								
0		Topsoil, brown to black, moist									0
1	Toothed Bucket	SAND, silty, some gravel, moist, loose to compact, brown; gravel to 20 mm			16	60	24	finer			4
		GRAVEL, sandy, some silt, moist, compact, black to bluish grey; highly to completely weathered rock									5
2		UNDIFFERENTIATED VOLCANIC ROCK, moderately weathered, black & grey, weak to moderately strong									7



Contractor:  
 Drilling Rig Type: John Deere 75G  
 Logged By: LS  
 Reviewed By: SWG

Completion Depth: 2.1 m  
 Start Date: 2020 March 18  
 Completion Date: 2020 March 18  
 Page 1 of 1

VANCOUVER ENG-KGEO03583-01 FOSTHALL LOT.GPJ EBA.GDT 21-3-25

TP21-01



Tetrapl photos.docx

1144219 BC Ltd

Testpit No: TP21-02

Project: Fosthall Lot Geohazard Assessment

Project No: ENG.KGEO03583-01

Location: Mt Fosthall Lot

Vernon

UTM: 339463 E; 5568245 N; Z 11 NAD83

Depth (m)	Method Core Diameter (mm)	Soil Description	Graphical Representation	Particle Size Distribution				Field Vane (kPa)			Depth (ft)
				Gravel (%)	Sand (%)	Fines		Plastic Limit	Moisture Content	Liquid Limit	
Silt (%)	Clay (%)	Post-Peak	Peak								
0		Topsoil, brown to black, moist									0
0.2		SAND, gravelly, trace silt, damp, loose to compact, brown									0.7
0.3		UNDIFFERENTIATED VOLCANIC ROCK, moderately weathered, black & grey, weak to moderately strong; completely to highly weathered and very weak in the upper 0.2 m									1.0



TETRA TECH

Contractor:

Drilling Rig Type: John Deere 75G

Logged By: LS

Reviewed By: SWG

Completion Depth: 1 m

Start Date: 2020 March 18

Completion Date: 2020 March 18

Page 1 of 1

TP21-02



1144219 BC Ltd

# Testpit No: TP21-03

Project: Fosthall Lot Geohazard Assessment

Project No: ENG.KGEO03583-01

Location: Mt Fosthall Lot

Vernon

UTM: 339448 E; 5568256 N; Z 11 NAD83

Depth (m)	Method Core Diameter (mm)	Soil Description	Graphical Representation	Particle Size Distribution				Field Vane (kPa)			Depth (ft)
				Gravel (%)	Sand (%)	Fines		Plastic Limit	Moisture Content	Liquid Limit	
Slit (%)	Clay (%)	Post-Peak	Peak								
0		Topsoil, brown to black, moist									0
	Solid stem auger	SAND, silty, trace gravel, moist, loose to compact, brown; sand is fine-grained									1
		UNDIFFERENTIATED VOLCANIC ROCK, moderately weathered, black & grey, weak to moderately strong; completely to highly weathered and very weak in the upper 0.1 m									2
											3
1											4
2											5
3											6
											7
											8
											9
											10



Contractor:	Completion Depth: 0.9 m
Drilling Rig Type: John Deere 75G	Start Date: 2020 March 18
Logged By: LS	Completion Date: 2020 March 18
Reviewed By: SWG	Page 1 of 1

VANCOUVER ENG-KGEO03583-01 FOSTHALL LOT, GP-JEBA.CDT 21-3-25

TP21-03



1144219 BC Ltd

# Testpit No: TP21-04

Project: Fosthall Lot Geohazard Assessment

Project No: ENG.KGEO03583-01

Location: Mt Fosthall Lot

Vernon

UTM: 339469 E; 5568274 N; Z 11 NAD83

Depth (m)	Method Core Diameter (mm)	Soil Description	Graphical Representation	Particle Size Distribution				Field Vane (kPa)			Depth (ft)
				Sample Type Gravel (%)	Sand (%)	Fines		Plastic Limit	Moisture Content	Liquid Limit	
Silt (%)	Clay (%)	Post-Peak	Peak								
0	Solid stem auger	Topsoil, brown to black, moist									0
1		SAND, gravelly, some silt, moist, loose to compact, brown; sand is fine-grained		30	57	13	0	13	13	13	3
5		UNDIFFERENTIATED VOLCANIC ROCK, moderately weathered, black & grey, weak to moderately strong; completely to highly weathered and very weak in the upper 0.3 m									5



**TETRA TECH**

Contractor:

Drilling Rig Type: John Deere 75G

Logged By: LS

Reviewed By: SWG

Completion Depth: 1.8 m

Start Date: 2020 March 18

Completion Date: 2020 March 18

Page 1 of 1

TP21-04



Teeplit photos.docx

1144219 BC Ltd

# Testpit No: TP21-05

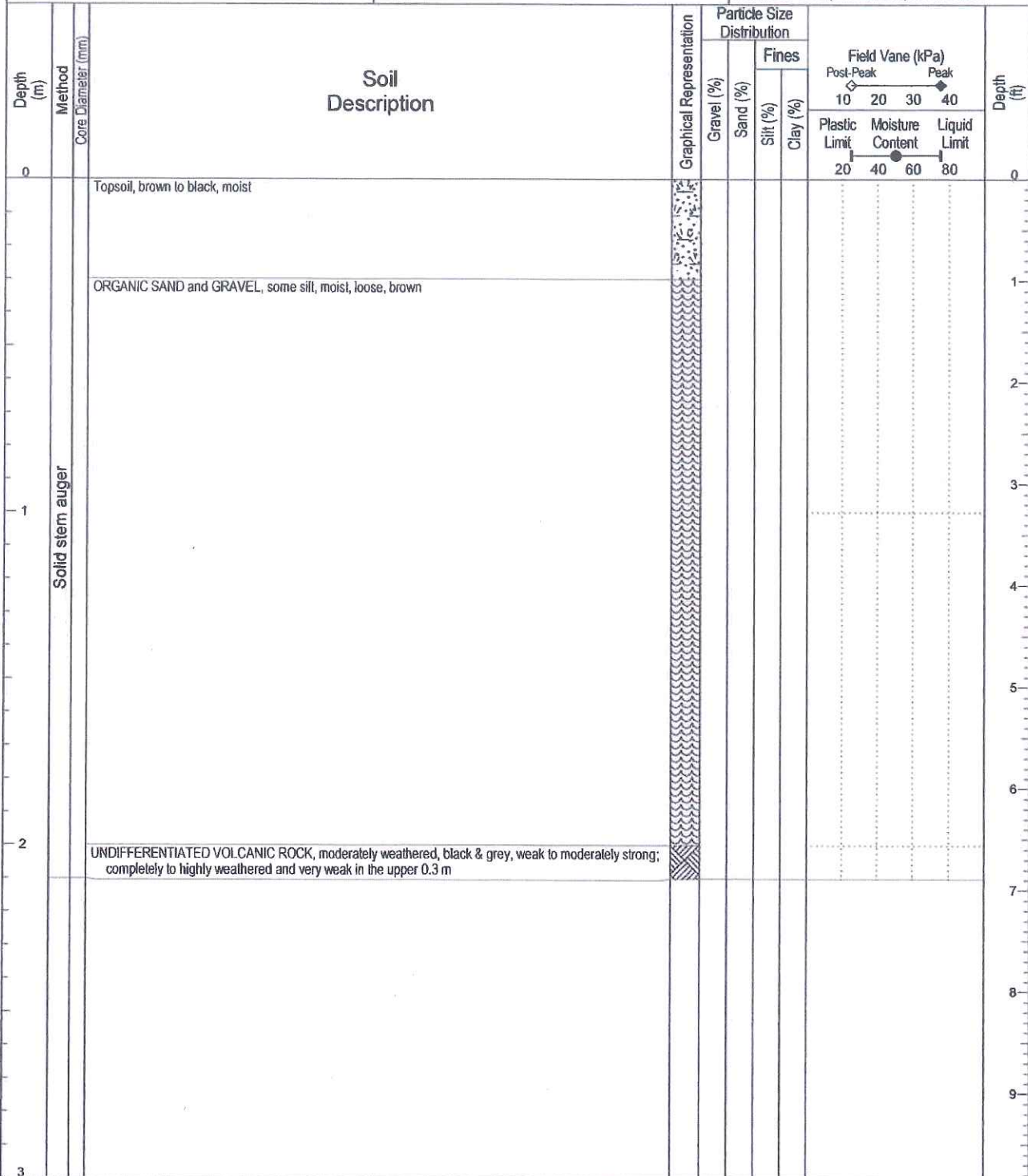
Project: Fosthall Lot Geohazard Assessment

Project No: ENG.KGEO03583-01

Location: Mt Fosthall Lot

Vernon

UTM: 339493 E; 5568298 N; Z 11 NAD83



Contractor:  
 Drilling Rig Type: John Deere 75G  
 Logged By: LS  
 Reviewed By: SWG

Completion Depth: 2.1 m  
 Start Date: 2020 March 18  
 Completion Date: 2020 March 18  
 Page 1 of 1

VANCOUVER ENG-KGEO03583-01 FOSTHALL LOT.GPJ.EBA.GDT 21-3-25

TP21-05



1144219 BC Ltd

# Testpit No: TP21-06

Project: Fosthall Lot Geohazard Assessment

Project No: ENG.KGEO03583-01

Location: Mt Fosthall Lot

Vemon

UTM: 339490 E; 5568266 N; Z 11 NAD83

Depth (m)	Method Core Diameter (mm)	Soil Description	Graphical Representation	Particle Size Distribution				Field Vane (kPa)			Depth (ft)
				Sample Type Gravel (%)	Sand (%)	Fines		Post-Peak	Peak	Plastic Limit	
Silt (%)	Clay (%)	10	20			30	40				
0		Topsoil, brown to black, moist									0
1	Solid stem auger	SAND, gravelly, some silt, moist, loose to compact, brown									3
		SAND, silty, some gravel, moist, bluish-grey; possibly glacial till.									4
5					21	65	14	lines			
2		UNDIFFERENTIATED VOLCANIC ROCK, moderately weathered, black & grey, weak to moderately strong; completely to highly weathered and very weak in the upper 0.2 m									8
3											9



TETRA TECH

Contractor:

Drilling Rig Type: John Deere 75G

Logged By: LS

Reviewed By: SWG

Completion Depth: 2.7 m

Start Date: 2020 March 18

Completion Date: 2020 March 18

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TP21-06



Tetrapl photos.docx



## APPENDIX C

### LABORATORY TEST RESULTS

## SIEVE ANALYSIS REPORT

Washed Sieve: ASTM C136 and C117

Project No.: ENG.KGEO03583-01

Sample No.: KS-9360

Project: Lot B Fosthall Drive

Date Sampled: March 18, 2021

Client: 1144219 BC Ltd.

Sampled by: LS

Attention: See e-mail distribution

Date Tested: March 22, 2021

Email: See e-mail distribution

Tested by: LS Office: Kelowna

Description: 25 mm (-) SAND, silty, some gravel

Moisture Content (as received): 14.9%

Source: TP21-01

No. Crushed Faces: One (1) or Two (2)

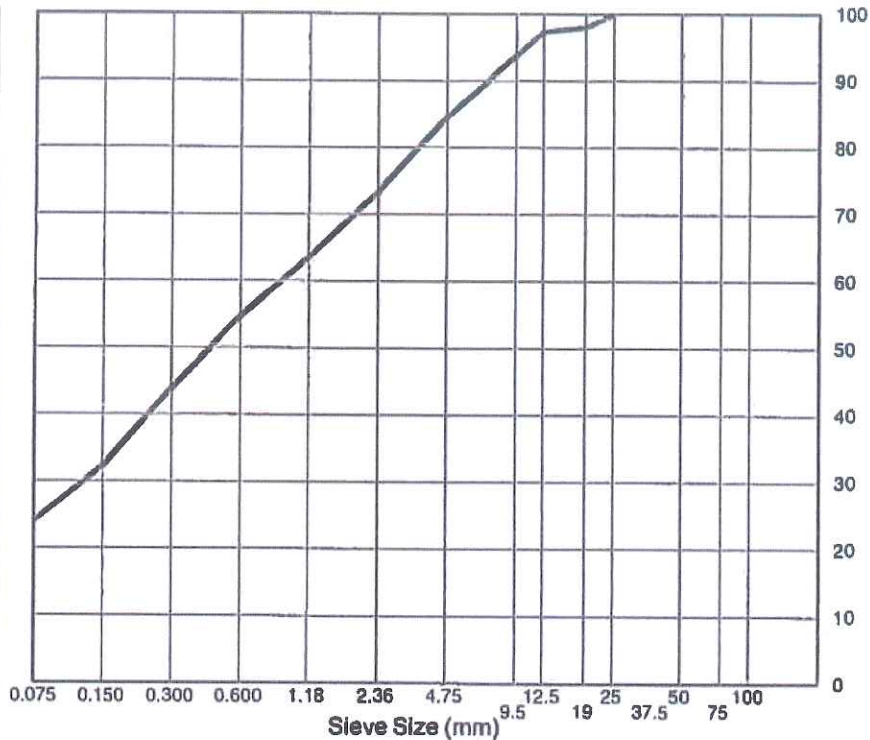
Depth: 1.3 m

By particle mass:


Supplier: N/A

Specification: N/A

Sieve Size	Percent Passing
25	100
19	98
12.5	97
9.5	94
4.75	84
2.36	73
1.18	63
0.600	55
0.300	44
0.150	32
0.075	24.1



Remarks:

Reviewed By: 

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## SIEVE ANALYSIS REPORT

Washed Sieve: ASTM C136 and C117

Project No.: ENG.KGEO03583-01

Project: Lot B Fosthall Drive

Client: 1144219 BC Ltd.

Attention: See e-mail distribution

Email: See e-mail distribution

Description: 25 mm (-) SAND, gravelly, some silt

Source: TP21-04

Depth: 1.0 m

Supplier: N/A

Specification: N/A

Sample No.: KS-9361

Date Sampled: March 18, 2021

Sampled by: LS

Date Tested: March 22, 2021

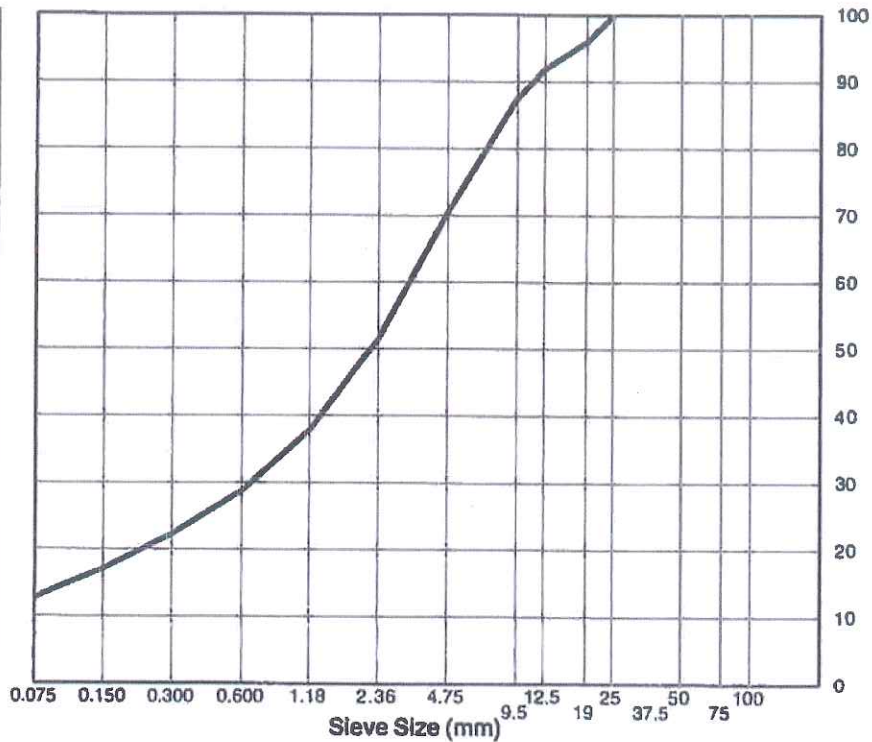
Tested by: LS Office: Kelowna

Moisture Content (as received): 10.4%

No. Crushed Faces: One (1) or Two (2)

By particle mass:

Sieve Size	Percent Passing
25	100
19	96
12.5	92
9.5	87
4.75	70
2.36	51
1.18	38
0.600	29
0.300	22
0.150	17
0.075	12.7



Remarks:

Reviewed By: 

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## SIEVE ANALYSIS REPORT

Washed Sieve: ASTM C136 and C117

**Project No.:** ENG.KGEO03583-01

**Sample No.:** KS-9362

**Project:** Lot B Fosthall Drive

**Date Sampled:** March 18, 2021

**Client:** 1144219 BC Ltd.

**Sampled by:** LS

**Date Tested:** March 22, 2021

**Attention:** See e-mail distribution

**Tested by:** LS      **Office:** Kelowna

**Email:** See e-mail distribution

**Moisture Content (as received):** 4.0%

**Description:** 25 mm (-) SAND, gravelly, some silt

**No. Crushed Faces:** One (1) or Two (2)

**Source:** TP21-06

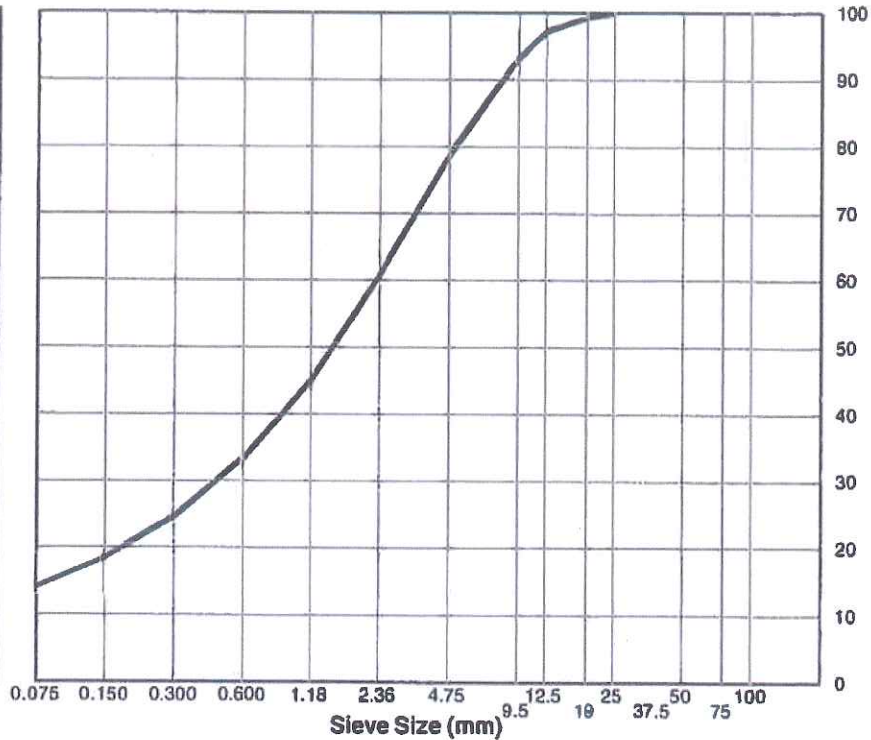
**By particle mass:**

**Depth:** 1.5 m

**Supplier:** N/A

**Specification:** N/A

Sieve Size	Percent Passing
25	100
19	99
12.5	97
9.5	93
4.75	79
2.36	61
1.18	45
0.600	33
0.300	24
0.150	18
0.075	14.1



**Remarks:**

**Reviewed By:** \_\_\_\_\_

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## APPENDIX D

### TETRA TECH'S LIMITATIONS ON THE USE OF THIS DOCUMENT

# LIMITATIONS ON USE OF THIS DOCUMENT

## GEOTECHNICAL

### 1.1 USE OF DOCUMENT AND OWNERSHIP

This document pertains to a specific site, a specific development, and a specific scope of work. The document may include plans, drawings, profiles and other supporting documents that collectively constitute the document (the "Professional Document").

The Professional Document is intended for the sole use of TETRA TECH's Client (the "Client") as specifically identified in the TETRA TECH Services Agreement or other Contractual Agreement entered into with the Client (either of which is termed the "Contract" herein). TETRA TECH does not accept any responsibility for the accuracy of any of the data, analyses, recommendations or other contents of the Professional Document when it is used or relied upon by any party other than the Client, unless authorized in writing by TETRA TECH.

Any unauthorized use of the Professional Document is at the sole risk of the user. TETRA TECH accepts no responsibility whatsoever for any loss or damage where such loss or damage is alleged to be or, in fact, caused by the unauthorized use of the Professional Document.

Where TETRA TECH has expressly authorized the use of the Professional Document by a third party (an "Authorized Party"), consideration for such authorization is the Authorized Party's acceptance of these Limitations on Use of this Document as well as any limitations on liability contained in the Contract with the Client (all of which is collectively termed the "Limitations on Liability"). The Authorized Party should carefully review both these Limitations on Use of this Document and the Contract prior to making any use of the Professional Document. Any use made of the Professional Document by an Authorized Party constitutes the Authorized Party's express acceptance of, and agreement to, the Limitations on Liability.

The Professional Document and any other form or type of data or documents generated by TETRA TECH during the performance of the work are TETRA TECH's professional work product and shall remain the copyright property of TETRA TECH.

The Professional Document is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of TETRA TECH. Additional copies of the Document, if required, may be obtained upon request.

### 1.2 ALTERNATIVE DOCUMENT FORMAT

Where TETRA TECH submits electronic file and/or hard copy versions of the Professional Document or any drawings or other project-related documents and deliverables (collectively termed TETRA TECH's "Instruments of Professional Service"), only the signed and/or sealed versions shall be considered final. The original signed and/or sealed electronic file and/or hard copy version archived by TETRA TECH shall be deemed to be the original. TETRA TECH will archive a protected digital copy of the original signed and/or sealed version for a period of 10 years.

Both electronic file and/or hard copy versions of TETRA TECH's Instruments of Professional Service shall not, under any circumstances, be altered by any party except TETRA TECH. TETRA TECH's Instruments of Professional Service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

### 1.3 STANDARD OF CARE

Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

### 1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

### 1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by third parties other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

### 1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this document, at or on the development proposed as of the date of the Professional Document requires a supplementary exploration, investigation, and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

### 1.7 ENVIRONMENTAL AND REGULATORY ISSUES

Unless stipulated in the report, TETRA TECH has not been retained to explore, address or consider and has not explored, addressed or considered any environmental or regulatory issues associated with development on the subject site.

### 1.8 NATURE AND EXACTNESS OF SOIL AND ROCK DESCRIPTIONS

Classification and identification of soils and rocks are based upon commonly accepted systems, methods and standards employed in professional geotechnical practice. This report contains descriptions of the systems and methods used. Where deviations from the system or method prevail, they are specifically mentioned.

Classification and identification of geological units are judgmental in nature as to both type and condition. TETRA TECH does not warrant conditions represented herein as exact, but infers accuracy only to the extent that is common in practice.

Where subsurface conditions encountered during development are different from those described in this report, qualified geotechnical personnel should revisit the site and review recommendations in light of the actual conditions encountered.

### 1.9 LOGS OF TESTHOLES

The testhole logs are a compilation of conditions and classification of soils and rocks as obtained from field observations and laboratory testing of selected samples. Soil and rock zones have been interpreted. Change from one geological zone to the other, indicated on the logs as a distinct line, can be, in fact, transitional. The extent of transition is interpretive. Any circumstance which requires precise definition of soil or rock zone transition elevations may require further investigation and review.

### 1.10 STRATIGRAPHIC AND GEOLOGICAL INFORMATION

The stratigraphic and geological information indicated on drawings contained in this report are inferred from logs of test holes and/or soil/rock exposures. Stratigraphy is known only at the locations of the test hole or exposure. Actual geology and stratigraphy between test holes and/or exposures may vary from that shown on these drawings. Natural variations in geological conditions are inherent and are a function of the historical environment. TETRA TECH does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of more precise locations of geological units is necessary, additional exploration and review may be necessary.

### 1.11 PROTECTION OF EXPOSED GROUND

Excavation and construction operations expose geological materials to climatic elements (freeze/thaw, wet/dry) and/or mechanical disturbance which can cause severe deterioration. Unless otherwise specifically indicated in this report, the walls and floors of excavations must be protected from the elements, particularly moisture, desiccation, frost action and construction traffic.

### 1.12 SUPPORT OF ADJACENT GROUND AND STRUCTURES

Unless otherwise specifically advised, support of ground and structures adjacent to the anticipated construction and preservation of adjacent ground and structures from the adverse impact of construction activity is required.

### 1.13 INFLUENCE OF CONSTRUCTION ACTIVITY

Construction activity can impact structural performance of adjacent buildings and other installations. The influence of all anticipated construction activities should be considered by the contractor, owner, architect and prime engineer in consultation with a geotechnical engineer when the final design and construction techniques, and construction sequence are known.

### 1.14 OBSERVATIONS DURING CONSTRUCTION

Because of the nature of geological deposits, the judgmental nature of geotechnical engineering, and the potential of adverse circumstances arising from construction activity, observations during site preparation, excavation and construction should be carried out by a geotechnical engineer. These observations may then serve as the basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein.

### 1.15 DRAINAGE SYSTEMS

Unless otherwise specified, it is a condition of this report that effective temporary and permanent drainage systems are required and that they must be considered in relation to project purpose and function. Where temporary or permanent drainage systems are installed within or around a structure, these systems must protect the structure from loss of ground due to mechanisms such as internal erosion and must be designed so as to assure continued satisfactory performance of the drains. Specific design details regarding the geotechnical aspects of such systems (e.g. bedding material, surrounding soil, soil cover, geotextile type) should be reviewed by the geotechnical engineer to confirm the performance of the system is consistent with the conditions used in the geotechnical design.

### 1.16 DESIGN PARAMETERS

Bearing capacities for Limit States or Allowable Stress Design, strength/stiffness properties and similar geotechnical design parameters quoted in this report relate to a specific soil or rock type and condition. Construction activity and environmental circumstances can materially change the condition of soil or rock. The elevation at which a soil or rock type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geological materials of the type and in the condition used in this report. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil and/or rock conditions considered in this report in fact exist at the site.

### 1.17 SAMPLES

TETRA TECH will retain all soil and rock samples for 30 days after this report is issued. Further storage or transfer of samples can be made at the Client's expense upon written request, otherwise samples will be discarded.

### 1.18 APPLICABLE CODES, STANDARDS, GUIDELINES & BEST PRACTICE

This document has been prepared based on the applicable codes, standards, guidelines or best practice as identified in the report. Some mandated codes, standards and guidelines (such as ASTM, AASHTO Bridge Design/Construction Codes, Canadian Highway Bridge Design Code, National/Provincial Building Codes) are routinely updated and corrections made. TETRA TECH cannot predict nor be held liable for any such future changes, amendments, errors or omissions in these documents that may have a bearing on the assessment, design or analyses included in this report.